SFP 12 2000

Via Fax and Mail

Gwen Zervas
Bureau of Federal Case Management
Department of Environmental Protection
401 East State Street
P. O. Box 028
Trenton, New Jersey 08625

Re: EPA Comments on the *Work Plan to Evaluate Additional Technologies to Enhance On-Site Free Product Recovery*, L.E. Carpenter Superfund Site, Wharton, New Jersey

Dear Ms. Zervas:

The U. S. Environmental Protection Agency (EPA) has reviewed the *Work Plan to Evaluate Additional Technologies to Enhance On-Site Free Product Recovery*, dated August 15, 2000 and has the following comments, outlined below.

General Comment

The document submitted is more of a conceptual outline than a full work plan, as it lacks virtually all of the information necessary to adequately evaluate the effectiveness and utility of proposed remedial technologies. Typically, such a work plan should include a detailed description of planned field activities, numbers and locations of samples, types of analyses and sampling methods. An additional review of these specifics will be necessary once a detailed work plan is presented. EPA guidance should be consulted on preparing the work plan so that all of the relevant information is included. This is not only required, it will ensure the quality of the data obtained and that all parties agree on the methodologies and goals.

Specific Comments

In addition to the above, three overall areas need to be addressed in the resubmitted work plan, as follows:

1. The plan states that a one layer groundwater model will be used to evaluate remedial alternatives. However, it should be noted that the utility of such a model is

extremely limited and no convincing argument is made as to why such a simple approach will suffice. A multiple layer model should be used, and, prior to its construction specific inputs and their sources should be presented to ensure that all parties reach an early consensus on the framework of the model.

2. The bench scale test for the use of Fenton's Reagent chemistry is cited as entailing the addition of reagents to a beaker of soil. Please note that this will not produce results that will allow the technology to be adequately evaluated. Bench testing of this technology requires a detailed work plan and a very controlled environment in order to accurately determine the effectiveness of the oxidant. Both the EPA and New Jersey Department of Environmental (NJDEP) have had much experience with the testing of this technology at other sites, and, among many other considerations, the process produces a significant amount of off gasses into which contaminants may partition. Conducting a bench test without carefully measuring all media involved will give incomplete and potentially misleading results. For example, oxidation can react with in-situ metals such as iron and manganese, thus reducing the overall effectiveness on the targeted contaminants. The process can also create a sludge like mass within the soil interstices, as well as mobilize in-situ metals. Therefore, the extent to which these could occur and be monitored should be addressed in a detailed bench testing work plan.

3. The figure 2 flow chart appears to indicate that the bench testing of chemical oxidation will proceed in parallel with the evaluation of other technologies, however, the key decision point consisting of a rough cost estimate as to whether the technology would be too expensive, will be arrived at without making a comparison to the cost of the other tested technologies. Typically, a feasibility study (FS) evaluates nine overall criteria, with the relative costs of remedial options being one of the criteria. Cost alone, as outlined in the figure, is not necessarily a limiting factor in itself. When taken together, the overall comparison and evaluation of

these nine criteria provide the information needed to either recommend or eliminate certain technologies and remedial options. In conclusion, as noted above, EPA guidance should be consulted and followed.

Thank you for the opportunity to review and comment on this document. Please feel free to contact me to discuss this matter further at (212) 637-4411.

Yours truly,

Stephen Cipot, Remedial Project Manager
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cc: Carole Petersen, NJRB
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